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10/620,553	07/17/2003	Moshe Ein-Gal	1307EIN-US	9245

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EXAMINER
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LAURITZEN, AMANDA L

ART UNIT	PAPER NUMBER
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3737

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/620,553	<b>Applicant(s)</b> EIN-GAL, MOSHE	
	<b>Examiner</b> A. Lauritzen	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 20-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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This action is in response to communications filed 11 June 2008. Amendments to the claims are not interpreted to introduce new matter. Rejection of claim 30 under the first paragraph of 35 U.S.C. 112 for new matter is withdrawn in view of the amendment and remarks.

***Response to Arguments***

Applicant's arguments have been fully considered but they are not persuasive. The previously cited Oppelt (US 5,279,282) teaches a vibratory membrane in a shockwave source device; Hassler (US 5,309,897) discloses a source device with vibratory membrane and propagation medium (abstract) and an associated reflector [21] having a membrane [12] that coincides with it (col. 4, lines 31-32; also col. 5, lines 7-10). The device of Hassler et al (US 5,309,897) relied upon in the rejection does actually have two membranes; one being a vibratory membrane associated with the source device and the second being designated [1] and associated with reflector [33]. The cited references were presented to show, not that many systems of the prior art contain two membranes as applicant's remarks suggest, but rather that it is well known to make use of membranes for both source devices and reflectors in shockwave generating systems. Accordingly, the primary reference relied upon to Hassler et al (US 5,058,569) contains two membranes; the first being the excitable membrane associated with the acoustic source device and the second being that designated [1], described at col. 5, lines 19-22 and associated with reflector [33].

The membrane [1] is clearly disclosed as associated with the reflector [33] as in col. 5, lines 19-22. Being that it is disclosed to "surround" membrane 1, it certainly covers (or makes contact with) an end face as claimed.

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Applicant's remarks with respect to the second source device sealingly passing through a first membrane which covers an open end of the first shockwave source device as claimed in the combination of claims 20 and 21 have been fully considered and are persuasive. This feature is allowable over the prior art and indicated as such herein.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 20, 22-25, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hassler et al. (U.S. Patent No. 5,058,569) in view of Grunewald et al. (U.S. Patent No. 5,224,468).

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Regarding claims 20-23 and 25, Hassler '569 discloses a shockwave source device comprising a cylindrical acoustic wave transducer sealed within an excitable membrane and having a longitudinal axis of symmetry (col. 4, lines 10-12; see also coil shockwave source 2 and membrane 1 of Fig. 1) with an at least partially parabolic reflector 33 that is disposed symmetrically on both sides of the longitudinal axis with an end face covered by an external membrane (col. 5, lines 19-22; col. 6, lines 55-57 for the "first" external membrane). This first external membrane covering an open end of the device is non-parallel (and generally perpendicular) to the longitudinal axis of symmetry of the device, but it is pointed out that since there is no criticality in providing this feature it is considered an obvious matter of design choice within the skill of the art. Hassler further discloses a propagation medium filling the inner volume of the reflector that separates the reflector from the acoustic wave transducer such that the acoustic waves are reflected towards a focus (col. 5, lines 10-12; lines 30-33). An aperture is formed in the reflector that surrounds the first shockwave source device that is located on the longitudinal axis of symmetry and sealed by a sealing ring (see bore 31 and sealing ring 32; also col. 4, lines 63-68 and col. 5, lines 3-4). The membrane surrounding the source device is excited and moved by the excitation device to generate shockwaves (see voltage generator 20 and col. 5, lines 58-65). A second membrane 1 is disclosed at col. 5, lines 19-22 to surround reflector 33.

Hassler '569 does not disclose a second shockwave source device but Grunewald '468 discloses a shockwave generating system with two longitudinally axisymmetric shockwave source devices with the second spherical acoustic wave source disposed in an aperture and adapted to emit acoustic waves to a common focus (see first source device P and second source E of Fig. 3; col. 3, lines 35-40).

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The reflectors described in both Grunewald and Hassler are understood to have “reflective surfaces” associated therewith. In Hassler, for one, it is clear that the reflectors have different shapes but, alternatively, since there is no stated criticality in providing this feature it is considered to be an obvious matter of design choice within the skill of the art.

Regarding claim 24, the second shockwave source device E of Grunewald ‘468 is disclosed as a spherical acoustic wave transducer in the embodiment of Fig. 3.

Regarding claim 28, the second shockwave source device E of Grunewald ‘468 is disclosed as a planar acoustic wave transducer with a focusing lens L that is adapted to focus the shockwaves in the embodiment of Fig. 2.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Hassler ‘569 to incorporate a second shockwave source (either planar or spherical) as taught by Grunewald ‘468 to superposition shockwaves of differing characteristics, such as energy density or focus size, by operating the first and second sources independently for improved disintegration of a calculus (see Grunewald ‘468 col. 1, line 58 – col. 2, line 2).

Regarding claim 30, Hassler et al. establishes that it is known in the art to make use of convex membranes, as they are disclosed to surround the spherical source devices and, specifically, “shaped in the form of a portion of a spherical surface” (col. 1, lines 50-54), so providing a convex membrane is obvious as use of the known spherical source device to which the membrane is conformed will necessarily have a convex-shaped surface.

2. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hassler et al. (U.S. Patent No. 5,058,569) in view of Grunewald et al. (U.S. Patent No. 5,224,468) and

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Reichenberger (U.S. Patent No. 4,976,255). The modified invention of Hassler '569 adheres to the invention substantially as claimed except for the first and second shockwave source devices being arranged with respect to one another to focus on different foci.

Reichenberger '255 discloses a first shockwave source device for generating a first focus and a second shockwave source device (therapeutic ultrasound source) converging at a second focus (col. 2, lines 47-60).

3. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hassler et al. (US 5,058,569) in view of Grunewald et al. (US 5,224,468), as applied to claim 20 above, further in view of Hoff et al. (US 3,942,531).

The device of Hassler et al. as modified by the disclosure of Grunewald et al. includes all features of the invention as substantially claimed, but is not specific to providing "point sources;" however, in the same field of endeavor, Hoff et al. disclose a shockwave lithotriptic device in which point sources are provided (evidenced by Applicant's disclosure), which will give rise to a series of waves (abstract of Hoff et al). The devices of both Hassler and Grunewald et al. additionally provide shockwave generating means that give rise to a sequence of spherical waves within the propagation medium, so since the sources achieve the same function as the point sources claimed they are regarded as functional equivalents for one another.

***Allowable Subject Matter***

Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, specifically to recite that the second shockwave source device sealingly passes through a membrane (identified as the first membrane in the claims) covering an open end

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of the first shockwave source device, as this feature in combination with the other limitations of the claims is allowable over the prior art.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda L. Lauritzen whose telephone number is (571)272-4303. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amanda L. Lauritzen/  
Examiner, Art Unit 3737

/BRIAN CASLER/  
Supervisory Patent Examiner, Art Unit  
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